REMARKS

This Amendment and the following remarks are intended to fully respond to the Final Office Action dated January 5, 2005. In that Final Office Action, claims 1-58 were examined, and all claims were rejected. More particularly, claims 1-23 are rejected under 35 U.S.C. §112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1-47 and 50-56 are rejected under 35 U.S.C. §102(e) as being anticipated by Craig et al (hereinafter Craig), US6,757,708. Claims 48 and 57 are rejected under 35 U.S.C. §103(a) as being anticipated by Craig in view of "Web Services Description Language", Curbera et al., March 2001 (hereinafter Curbera). Reconsideration of these rejections, as they might apply to the original and amended claims in view of these remarks, is respectfully requested.

In this Response, claims 1-40 are cancelled and claims 47 and 56 are amended to correct an informality. Therefore, claims 41-58 remain present for examination.

Claim Amendments

Claims 1-40 are cancelled herein. The Applicants reserve the right to pursue protection of the subject matter of claims 1-40 in a continuation application. Claims 47 and 56 are amended herein to correct an informality.

Claim Rejections – 35 U.S.C. § 112

Claims 1-23 were rejected under 35 U.S.C. §112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. This rejection is moot as the claims have been cancelled.

Claim Rejections of Claims 41-58 under 35 U.S.C. § 102 and § 103

Of the remaining claims, claims 41-47 and 50-56 were rejected under 35 U.S.C. §102(e) as being anticipated by Craig. Claims 48 and 57 were rejected under 35 U.S.C. §103(a) as being anticipated by Craig in view of "Web Services Description Language", Curbera et al., March 2001 (hereinafter Curbera). Claims 49 and 58 were rejected under 35 U.S.C. §103(a) as being anticipated by Craig in view of "Metadata Activity Statement", February 2001 (hereinafter Metadata). The Applicants respectfully traverse these rejections.

Regarding Claim 41

Independent claim 41 includes the element "automatically generating the data exchange schema data for the data processing object generated when the source code file is compiled to generate the data processing object that provides the requested processing service." This aspect of the invention is described in detail in the application with reference to FIG. 9 on pages 21, line 19 through page 32, line 9 among other places. The data exchange data includes information necessary to understand the exposed processing services supported by the data processing object. See page 22, lines 4-5. This data may then be transmitted to a client to allow the client remote access to the processing object, such as via a web page, without prior knowledge of the workings of the processing object.

The Examiner, rejected of claims 41-47 in paragraphs 23-28 of the Office Action. In those paragraphs, the Examiner cites to several locations in Craig as anticipating the "data exchange schema" element of claim 41, specifically col. 10, lines 55-60 and col. 9, lines 20-40. Applicants believe that the Examiner has mischaracterized these sections of Craig and that the sections in Craig relate to the internal operation of the Java Beans and JavaServer Pages (JSPs), not to a means of generating a data exchange schema.

Craig discloses in col. 9, lines 20-40, his entire system architecture at a high-level. This architecture is designed to deliver dynamic content to client. See, e.g., col. 9, lines 38-40, lines 18-20, and col. 8, lines 35-41. Craig uses JSPs as processing modules that

call Java Beans to generate dynamic web content and return the content to the JSP, which then generates and transmits a response to the client that contains the dynamic content. In Craig, the way the Java Beans and JSPs interact, i.e., the inputs required by each Java Bean, what services each Java Bean performs, and what output is sent back to the JSP, is previously known to the JSP. See, col. 9, lines 45-57 and specifically lines 46-53 ("The bean developer then communicates with the Web page designer as to what input properties of the bean must be set before the Web page invokes the bean's function, as well as the bean's output properties that will result from the bean executing, where the value of these output properties can then be embedded within the resulting Web page as dynamically generated content.").

Craig does not disclose generating data exchange schema data as claimed in claim 41

The cited Col. 9 section in Craig discusses aspects of Craig that are, in fact, very different from the claimed invention. The discussion focuses on the contents of the communications between the Java Beans and the JSP. While there is some discussion of the input values and output values and their format in these sections, there is no discussion of a data exchange schema being generated by any JSP or Java Bean. Rather, the JSP is deemed to have a complete understanding of how to exchange data with the Java Beans, what input parameters to provide it from the initial request, and what output to expect in return. See, e.g., col. 9, lines 32-34 ("For each bean, the JSP first sets the bean's input properties, calls its "execute" method and then gets information by accessing the bean's output properties."). Craig simply presupposes that the JSP knows the data exchange schema of the Java Beans.

The col. 10 citation is similarly different from the claimed invention. Lines 55-60 of Column 10 discuss inserting the output data from a Java Bean (i.e. dynamically created content) into a tag in the generated web page response of the JSP. This allows the web page to be cached and reused, even if the output data of the Java Bean has changed over time, because the tags allow for easy updating of the dynamic data by poling the corresponding Java Beans.

Therefore, Craig does not teach or disclose automatically generating a data exchange schema as claimed in claim 41. Applicants respectfully request that the Examiner withdraw this rejection and find claims 41 and its dependent claims 42-49 in a condition for allowance. Similarly, Applicants request the Examiner to allow claims 51-58 as they are computer-readable medium claims with substantially the same limitations of the method claims of claim 41-49 and are likewise not anticipated by Craig for the same reasons.

Craig does not disclose generating schema data upon compilation as claimed in claim 41

The Examiner should also note that any data generated by Craig occurs during the Java Bean execution. Craig does not teach or disclose generating any input value descriptions or data of any kind during compilation of the Java Bean. Claim 41, on the other hand, is limited to generating the schema data "when the source code file is compiled to generate the data processing object that provides the requested processing service." Thus, Craig does not anticipate this limitation of claim 41.

Regarding claims 42-49

Regarding the claims 42-49 depending from claim 41, Applicants further point out that each has additional limitations that are not shown in Craig. Claim 42 includes storing the data exchange schema in a web services library. As the JSPs are written with knowledge of how to interface with the Java Beans, Craig does not need to save a data exchange schema in a library.

Claim 43 includes the limitation wherein the data exchange schema includes an HTML representation for a web page. While Craig certainly discloses web pages, there is no discussion of a web page that is part of a data exchange schema for a processing object.

Claim 44 includes limitations related to descriptions of each data processing service exposed, input arguments required and output data values generated by a service. In Craig, all of this information was available to the JSP developer and, after the JSP is written, such information is no longer needed. Thus, while Craig's Java Beans require

certain input values and generate output values, there is no schema in Craig where all of this information is made available, such as to a client.

Claim 45 includes generating a schema that includes an input field. While input fields themselves are known in the art, Craig does not teach or disclose an input field that is part of a data exchange schema. Furthermore, in Craig, the client has no ability to input data directly to a Java Bean that provides a service – rather inputs must be placed in a request that is operated on by the JSP and where the JSP already has knowledge of the input values necessary for the Java Bean.

Claim 46 includes a limitation that the description of output values includes a button that causes the service to generate the output. Craig does not teach or disclose including a button in a data exchange schema.

Claims 47-49 include limitations that the data exchange schemas are expressed in various specific languages. As Craig does not teach or disclose a written schema in the first place, Craig does not teach or disclose schemas in a specific language. Furthermore, the Examiner's use of Curbera et al. "Web Services Language", March 2001 and "Metadata Activity Statement" February 2001 to support these languages does not overcome the missing schema limitation in Craig. Neither Curbera nor "Metadata" teach or disclose generating a data exchange schema as claimed in claim 41.

Regarding claims 50-58

Claims 50-58 are computer-readable medium claims directed to substantially the same subject matter of claims 41-49. For the reasons given above, Applicants believe these claims are allowable and request the Examiner to allow claims 50-58 over Craig, Curbera and "Metadata."
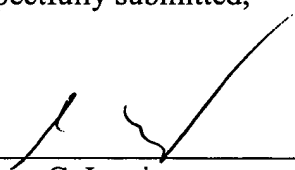
Conclusion

It is believed that no further fees are due with this Response. However, the Commissioner is hereby authorized to charge any deficiencies or credit any overpayment with respect to this patent application to deposit account number 13-2725.

In light of the above remarks, it is believed that the application is now in condition for allowance, and such action is respectfully requested. Should any additional issues need to be resolved, the Examiner is requested to telephone the undersigned to attempt to resolve those issues.

Respectfully submitted,

Date: April 5, 2005

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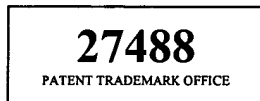
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